

Durham Research Online

Deposited in DRO:

08 April 2015

Version of attached file:

Accepted Version

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Slack, R. and Matthias, M. (2016) 'Intellectual capital reporting, leadership and strategic change.', Journal of applied accounting research., 17 (1). pp. 61-83.

Further information on publisher's website:

<https://doi.org/10.1108/JAAR-02-2014-0021>

Publisher's copyright statement:

This article is © Emerald Group Publishing and permission has been granted for this version to appear here <http://dro.dur.ac.uk/15029/>. Emerald does not grant permission for this article to be further copied/distributed or hosted elsewhere without the express permission from Emerald Group Publishing Limited.

Additional information:

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in DRO
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full DRO policy](#) for further details.

Intellectual capital reporting, leadership and strategic change.

Abstract

Purpose A change in leadership can signal a shift in corporate strategy to drive future value creation. To help achieve this, a different emphasis may be placed upon the intellectual capital (IC) resources within the organisation. This research examines the changes in volume, composition and emphasis of IC disclosure in annual reports mapped against the re-orientation of corporate strategy and associated leadership change.

Design/methodology/approach A longitudinal period of over three decades (1979 to 2010) is examined. Adopting a case based approach, Daimler AG is purposively selected for this research having a number of distinct changes in strategy over the period, reflective of leadership change. Using content analysis, annual report IC related disclosures (structural, relational and human capital) by Daimler AG are examined, by category and more detailed sub-categories, against corporate strategy.

Findings The composition and emphasis of IC disclosures found in the annual reports changes over the longitudinal period and is reflective of the prevailing corporate strategy at that time. There were four identified periods of strategy, each associated with leadership change. The prevalence and qualitative focus of IC disclosures relevant to each period reflects the importance of respective IC components in corporate value creation.

Research limitations/implications The research is based on annual report IC disclosures within one case company and hence reflect the messages conveyed by that company over the longitudinal period. Additionally, we recognise that the annual report is only one source of corporate information, but as a historic record it serves to consistently capture management disclosure over a long time period. Future research, adopting an econometric approach, could further test the linkages between leadership change, strategic shift and IC related disclosure.

Practical implications The research reveals how IC related disclosure shifts to reflect leadership and strategic change within a case company. Through such disclosure, we are able to gain greater insight into how a specific business seeks to create value drawing on the components of IC underpinning corporate strategy.

Originality/value The research provides new insights into IC disclosure by mapping its content and emphasis against changes in corporate strategy. This has contemporary significance due to the wider disclosure debate concerning strategy and value creation in the annual report, for instance through integrated reporting. Further, the research shows the value of annual reports for longitudinal disclosure research.

Keywords Intellectual Capital, Disclosure, Chief Executive, Strategy, Annual report

Paper type Research paper

1. Introduction

Intellectual capital (IC) has become an increasingly researched and important aspect of corporate reporting (Shareef and Davey, 2005), in part, due to its inextricable link with corporate value (Bornemann and Alwert, 2007; Edvinsson and Kivikas, 2007; Roos, 2005). Beattie and Thomson (2007) referred to IC as being “the intangible knowledge resources which create company value” (page 129). Corporate value creation is driven by corporate strategy, identifying in the organisation, “the path that all departments and functions have to pursue in order to accomplish the objective of creating value...and the success of a company’s strategy is critically dependent on these [intellectual capital] assets” (Alcaniz *et al.*, 2011, page 106). This important link between corporate strategy and intellectual capital is consistent with a number of studies (Lerro *et al.*, 2014; Cabrita and Vaz, 2006; Ashton, 2005; Green and Ryan, 2005; Rylander and Peppard, 2003).

Companies are dynamic entities, evolving over time, reflective of leadership change and associated significant shifts or re-orientation of corporate strategy (Rylander and Peppard, 2003; Tushman and Rosenkopf, 1996; Ginsberg and Abrahamson, 1991; Greiner and Bhambri, 1989). Likewise, the importance of particular aspects of IC to achieve organisational objectives enshrined in corporate strategy may fluctuate (Cabrita and Vaz, 2006). Cognisant of this, it would be appropriate for such a change in importance and emphasis to be reflected in annual report disclosures with management seeking to convey the salient aspects of IC in corporate value creation. Specifically, on the link between strategy, IC and disclosure Striukova *et al.* (2008) remarked: “intellectual resources are increasingly important factors in the successful achievement of organisational objectives and for stakeholders to more fully understand an organisation it is vital that the corporate reports adequately reflect its intellectual resources” (page 297). More broadly, market based research examining IC disclosure has shown its relevance to, and use by, capital market users, such as sell-side analysts (Abhayawansa and Abeysekera, 2009; Holland and Johanson, 2003), and as part of the investment decision making process (Bukh *et al.*, 2005; Gelb, 2002; Galbraith and Merrill, 2001).

Due to the importance of IC and its constituent components in the value creation process, this research examines changes in leadership and corporate strategy to identify patterns and changes in IC disclosures that may be reflective of such strategic shifts. Adopting a case

based approach, we examine IC related annual report disclosures by Daimler AG, a large public company within a knowledge-intensive high-technology industry over a contiguous 32 year period from 1979 to 2010. Significantly, for this research, during this period, there was considerable strategic change at Daimler AG and a succession of incumbent chief executive officers (CEO)¹. This is in part reflected in the three changes of the corporate name from Daimler-Benz AG (1926-1998) to DaimlerChrysler (1998-2007) and finally Daimler AG (2007 to date). We examine how reporting of IC at Daimler AG changed over the period 1979-2010, across three broad disclosure categories; structural, relational and human capital and the more detailed, sub-categories within those broad areas. Based upon this analysis, we map the volume and more detailed qualitative emphasis of IC related disclosures against identifiable changes in leadership and corporate strategy. Whilst, IC disclosure forms part of the wider voluntary reporting by companies, nonetheless by examining how such disclosure changes over time, with strategic change, we are able to gain insights into the shifts in reporting emphasis conveyed by management (Campbell and Rahman, 2010; Cabrita and Vaz, 2006; Campbell, 2000).

Within the IC literature there has been a predominance of disclosure studies that have either sought to rank IC disclosure volume across three broad IC categories; structural, relational and human capital (Campbell and Rahman, 2010; Shareef and Davey, 2005) or those that have examined determinants of disclosure such as company size (Striukova *et al.*, 2008; García-Meca and Martinez, 2007) or sector (Bozzolan *et al.*, 2003). In general, these volumetric rank and determinant type studies are predominantly based on a single year datasets or very short time-spans of usually two to three years. This study presents a new angle to IC research and contributes to that literature by mapping narrative based IC disclosure against changes in leadership and associated corporate strategy. This research responds to Bukh's (2003) call for more accounting based research into communication on strategy and value creation echoed by Beattie and Smith (2013). This link between strategy and disclosure is important as it helps us better understand and explain changes in the emphasis of IC reporting over time and, also the need to contextualise company specific IC related disclosure reflective of the prevailing corporate strategy. Cohen *et al.* (2014) referred to the "close conceptual relation" (page 297) between IC and strategy which has motivated

¹ Within German corporate reporting, the CEO is referred to as the chairman of the board of management (Vorstandsvorsitzender). The term CEO has been used throughout this research.

other researchers to call for a more systematic empirical IC analysis (Martin-de-Castro *et al.*, 2011; Reed *et al.*, 2006). Further, by its longitudinal nature, this study also responds to Campbell and Rahman (2010), who called for research to more fully explore the complexity of IC reporting over time.

This paper proceeds as follows. In the next section, we review the main constituents of IC and provide an overview of the IC literature. Within the method section, we explain the purposive selection of Daimler AG for case based research, providing a background to Daimler AG and the identified periods of strategy and incumbent CEOs over the period 1979-2010. We also outline the use of content analysis within this research. The findings are then presented followed by discussion and conclusion.

2. Intellectual Capital

Intellectual capital is broadly seen as a stock of intangible resources used by an organisation to create future value (Campbell and Rahman, 2010). Striukova *et al.* (2008) posited “in broad terms intellectual capital can be defined as the intellectual, or knowledge based, resources of an organisation....to further the organisation’s goals” (page 298). To capture IC disclosure, Sveiby (1997) proposed a measurement scheme based around three broad categories: internal structure; external structure and employee competence. In accounting research, Sveiby’s three categories are now more commonly referred to as human capital (employee), structural capital (internal structure) and relational (external) capital (see for instance Curado *et al.*, 2011; Campbell and Rahman, 2010; Striukova *et al.*, 2008; Shareef and Davey, 2005). Broadly, human capital comprises, inter alia, the knowledge, experiences, commitment, skills, innovativeness and competencies of the employees and the workforce as a collective (Abeysekera and Guthrie, 2004). Structural capital relates to those organisational mechanisms, structures, routines, practices and processes that serve as conduit for all employee activities. Finally, relational capital is determined as an organisation’s interaction with its stakeholder groups (Campbell and Rahman, 2010; Marr, 2005; Roos, 2005; Guthrie *et al.*, 2004). Within the prior literature, most studies have used a narrow sub-categorisation of the three broad areas of IC disclosure. This, more detailed, sub-categorisation of the three broad elements, adopted in this paper, is shown as Appendix A.

There are a number of different strands of research that have examined IC, and of those, three aspects that are most relevant to this study are discussed in turn. Firstly, the growing number of studies, that have examined the link between corporate strategy, IC and value creation to which this research contributes. The alignment of IC to corporate strategy to drive value has been highlighted in the prior literature, for instance Bornemann and Alwert (2007), Edvinsson and Kivikas (2007), Ashton (2005), Joia (2000) and Sullivan (2000), enabling companies to focus their resources to more effectively reflect corporate strategy. Such IC alignment and the performance of a business is consistent with more general research drawn from the earlier strategic management (for instance Zack, 1999; Stewart, 1999; Klein, 1998; Porter, 1985) and the resource based view of the firm (Gamerschlag, 2013; Wright *et al.*, 2001; Barney, 1991; Nelson and Winter, 1982; Penrose; 1959) .

The importance of IC for the realisation of strategic objectives was stressed by Lerro *et al.* (2014) who contended that “IC represents intrinsic objects of a company’s strategy and as an instrumental lever to achieve strategic outcomes” (page 352). Similarly, Cabrita and Vaz (2006) argued that “from a strategic perspective, intellectual capital is used to create and apply knowledge to enhance firm value. Value creation is at the heart of strategic management and the rationale of intellectual capital is its ability to create value. Thus, intellectual capital and strategy are intricately woven” (page 13). Other researchers have also recognised intellectual capital as a key driver of value, for instance, Marr *et al.* (2004), Rylander and Peppard (2003) and Green and Ryan (2005), the latter noting that intangible assets [IC] are “the key strategic key to a business enterprise’s value” (page 43). Further, Alcaniz *et al.* (2011) posit a two way relationship between IC and strategy; “intellectual capital resources are often performance drivers; hence there is a causal relationship between those resources and value creation” (page 106).

The centrality of IC in value creation builds upon the earlier conceptualisation of strategy maps (Kaplan and Norton, 2004; 2000) to visualise the links from strategy to intangible assets to help understand the process of value creation (and see Marr, 2005; Roos, 2005). Within the more specific IC literature, Rylander and Peppard (2003) link strategy through to IC and physical resources in the value creation chain to “make the strategy happen” (page 323). They developed a framework showing the linkages from business strategy, and the more high level vision and purpose, through to the use of resources to deliver the strategy comprised of

traditional physical resources, financial resources and IC resources. Similarly, Edvinsson and Kivikas (2007) reported on the German Wissensbilanz (IC reporting) project (Abhayawansa, 2014; Alwert *et al.*, 2004). This reporting guideline, published for SME's, adopted an IC driven approach, showing the link from business strategy to business performance and external impact through the use of intellectual capital components (human, structural and relational) and other physical resources by the firm.

In terms of corporate reporting, Abhayawansa and Abeysekera, (2009) found that sell-side analysts and fund managers are requesting more information about firms' IC (and see Holland and Johanson, 2003). This market based demand reflects the importance of IC in value creation compared to the financial and physical resources that traditional financial reporting is more focussed on in terms of statutory disclosure. Gelb (2002) indicated that supplementary disclosure is thus an important medium especially for those firms with significant levels of intangible assets. Edvinsson and Kivikas (2007) outlined the practical benefits of more focussed IC disclosure including improving "external communication especially relevant for banks and investors; highlighting strategic potential and value creation within the organisation; and increasing transparency on strategy and IC linkages" (page 383). Specifically reporting on human capital, Huang *et al.* (2013) noted that, "human capital has long been recognised as a vital asset and value creator to companies" (page 180) and that "adequate disclosure of human capital information is important since it.....conveys a firm's potential to create value" (page 181). Through IC disclosure in annual reports, organisations are more fully able to inform stakeholders of the importance of, and emphasis on, intangible assets in the value creation process. More generally, the links between IC, strategy and underpinning business model have been embodied in the recent demands for a more joined-up business reporting (see for instance BIS, 2011; ICAEW, 2009) which would reflect the importance of intangible assets in value creation (see Beattie and Smith, 2013; Bukh, 2003). In a wider contemporary reporting context, the link between strategy and IC reporting is broadly reflective of the contemporary integrated reporting initiative (IIRC, 2013) advocating business model disclosure and the "link between business strategy, the underpinning business model and the use of an organisation's capitals in achieving and creating value" (www.theiirc.org).

Two other aspects of the more general IC literature are also relevant to this study, in part due to the selection of Daimler, a large public company in the high-technology manufacturing sector, as the case company. Firstly, those studies that examined determinants of IC disclosure. Of significance to this study, Bozzolan *et al.* (2003) examined Italian disclosure based on 2001 annual reports and concluded: “industry and size have the highest explanatory potential” [for IC disclosure] (page 553). Similarly, in their study of English football clubs, Shareef and Davey (2005) confirmed the positive relationship between company size and levels of IC disclosure. More recently, Bellora and Guenther (2013) affirmed that industry and firm size drive the quantity of IC disclosure. In more general terms, voluntary disclosure, is commonly associated with firm size (Ahmed and Courtis, 1999; Botosan, 1997; Meek *et al.*, 1995) and the findings in relation to IC are consistent with this. Striukova *et al.* (2008) highlighted such a size effect “where companies with larger market capitalisations report more IC information than smaller companies” (page 301) and additionally, the significance of industrial sector observing that “high knowledge intensive sectors are more likely to disclose more IC” (page 307). This is consistent with many other studies that have all shown company size and/or sector as positively correlated with IC disclosure frequency (see for instance Singh and Kansal, 2011; Brüggén *et al.*, 2009; Schneider and Samkin, 2008).

Secondly, a number of cross-country and cross-sectoral studies have examined IC reporting volumes across the three broad categories, namely relational capital, structural capital and human capital. In general, these studies show the prevalence of relational capital as the dominant area for IC disclosure (Davey *et al.*, 2009; Striukova *et al.*, 2008; Whiting and Miller, 2008; Guthrie *et al.*, 2006; Abeysekera and Guthrie, 2005; Shareef and Davey, 2005). With regard to human and structural capital reporting, there is no clear rank order shown in the prior research. In addition there are a small number of studies that have specifically examined one aspect of IC reporting. For instance, Abeysekera (2008) and Huang *et al.* (2013) both examined human capital disclosure. Most of these volumetric studies are based on data either from a one year period or over a period of three years and there have been very few studies that have examined IC reporting over a longer time period. One of the notable exceptions to this is Campbell and Rahman (2010), who examined IC disclosure in Marks & Spencer annual reports from 1978 to 2008. They reported a marked increase in relational capital during the 2000’s, towards the end of the period of study although, notably, this was not attributed to any underlying factor. They also reported on an overall increase in IC

disclosure over the period, consistent with the move from a traditional, production economy to a more knowledge orientated economy (Seetharaman *et al.*, 2002). Consistent with this finding, Cabrita and Vaz (2006) noted that “the rise of new economy has highlighted the fact that the value created depends far less on their physical assets than on their intangible ones. These assets, often described as intellectual capital” (page 11). Similarly, referring to the importance of IC, Abhayawansa and Abeysekera, (2009) asserted that the potential for creating competitive advantage and long-term corporate value now lies more importantly in effective management of intangibles (IC) than in tangible assets.

3. Method

The literature review provided evidence as to the relationship between company size and sector and levels IC disclosure, in favour of those large companies in knowledge intensive sectors. Daimler AG is a very large, listed company. The annual report for 2011-12 shows turnover of €106,540 million with net profit after tax of €6,029 million. It has approximately 270,000 employees worldwide. Daimler AG is a leading global automotive (cars, commercial vehicles and trucks) manufacturer with a tradition of, and strong focus on, research and development, product innovation and market leadership. Thus, it may be expected that such a large company in a technology sector would have a history of IC related disclosures. However and importantly for the purpose of this study, it was necessary to specifically identify a company that had undergone considerable strategic change over the period to examine any IC related disclosure against periods of differing strategic direction and associated leadership. We set out below the changes in Daimler leadership and strategy over a three decade period (1979-2010) that purposively led to its selection for this study. In one of the few other longitudinal studies, Campbell and Rahman (2010) in their choice of Marks and Spencer noted that the company had “undergone no significant changes in ownership structure (i.e. mergers or acquisitions)...and management succession had been orderly” (page 61). In contrast, this research by identifying a company that had been through a succession of leadership changes and associated strategic re-orientation, seeks to provide new insights into the levels and composition of IC reporting over the observed period.

3.1. Background to Daimler and strategic changes 1979-2010.

In 1883, Karl Benz formed Benz and Companies in Mannheim to design and produce motorised transport which in 1926 merged with Daimler to form Daimler-Benz AG

producing cars under the name of Mercedes-Benz. It remained Daimler-Benz AG until 1998, when after a merger with the U.S. based Chrysler Corporation, it was renamed DaimlerChrysler AG. With the subsequent sale of Chrysler in 2007, the corporation was, again, renamed and remains Daimler AG. During the three decade period, 1979-2010, there were four distinct phases of corporate strategy. The key events and signifiers of corporate strategy are shown in Table 1 against the respective CEO in office at that time.

Insert Table 1 about here

Four significant phases of corporate strategy are shown over the 32 year period (1979 to 1984; 1985 to 1995; 1996 to 2005 and 2006 to 2010). Firstly, the initial and traditional focus on the core automotive business and complimentary technologies (1979-1984). There followed a short period with Werner Breitschwerdt as CEO. There was some, although limited, diversification into aviation and electronics sectors with the acquisitions of Dornier and AEG (1985), although the traditional Daimler functional structure was retained. In 1987, Edzard Reuter became CEO, having notably been the former chair of the influential structure and synergy committee and had been behind the initial moves to diversify (Grässlin, 2000). As CEO, Reuter oversaw large scale diversification and restructuring of Daimler AG, from its traditional functional structures, to independent divisions: vehicles, aviation, aerospace and defence technology. This was formalised through the “integrated technology group” (integrierter technologiekonzern) corporate diversification strategy, 1985-1995, (Streek, 2009). The significance of the shift in strategy is outlined in the annual reports during the period, for example: “There can be very few companies able to even contemplate such an ambitious re-orientation of their strategy and of their entire company structure” (Annual report 1991, page 6)

In 1995, Jürgen Schrempp was appointed CEO. This marked a further restructuring and strategic realignment of the group with a focus on global market share and emphasis on shareholder wealth. Schrempp highlighted the importance of this strategic change, arguing that “our very existence would now be under threat if I had not carried out the restructuring...we gave the company a new direction in just fifteen months” (Grässlin, 2000, page 45). Many of the tangential parts of the former diversified business were disposed such as Fokker, Dornier and AEG. The strategic focus was on global automotive markets (Streek,

2009) under a corporate strategy labelled “world corporation vision” (Welt AG), epitomised by the merger with the Chrysler Corporation and the formation of DaimlerChrysler in 1998. Again, the shift in strategy is reflected in the annual reports at that time, for instance: “Our central responsibility is to shareholders, in a way that adds real growth to this company’s value. Everything in our power will be done to achieve this.....We have devised the right strategy to achieve this” (Annual report 2000, page 8).

In the wake of ongoing financial problems with both Chrysler and Mitsubishi, and prior to the expiration of his contract, Schrempp was replaced as CEO by Dieter Zetsche from 1 January 2006. The final period of identified strategy is from 2006 onwards marked by the sale of Chrysler in 2007 and the renaming of the company to Daimler AG. Subsequent to the majority (80.1%) disposal of Chrysler in 2007, the remaining 19.9% was sold in 2009. The final strategy period, is in part shaped by the demise of Chrysler and the potential reputational fall out of this, from the prior DaimlerChrysler merged group, on the global positioning and brand of Daimler. The strategy, during this final period, aimed to re-assert the tradition of the Daimler global brands in car and commercial vehicles by a return to core business focus. This shift is again evident in annual report disclosures at that time: “We have reviewed the strategic focus of Daimler AG and adjusted it to the new situation. As a pacemaker for technological progress in the automobile industry, we focus on our traditional strengths” (Annual report 2007, page 36).

3.2. The use of annual report and content analysis

To achieve longitudinal consistency of method, the research uses annual reports as the basis of disclosure (Niemark, 1995). Although no unifying and agreed framework exists for IC reporting (Curado *et al.*, 2011; Abeysekera, 2008), the annual report as a traditional financial reporting instrument, does provide an appropriate mechanism enabling organisations to voluntarily report IC to shareholders and other stakeholders. The use of the annual report is common to the majority of previous IC disclosure studies as reviewed by Campbell and Rahman (2010) and Striukova *et al.* (2008), although the latter outlined the limitations of using the annual report as a proxy for all disclosure against other media such as the corporate website. However, the annual report enables comparative measurement of IC reporting over time (Abeysekera and Guthrie, 2005). This would not be possible with other reporting mediums that have been used in some cross sectional IC studies, for instance IPO

prospectuses (Cordazzo, 2007; Bukh *et al.*, 2005) which are one off documents published in the listing process; or the use of websites (Striukova *et al.*, 2008; Lee *et al.*, 2007) that lack historic availability.

Despite its limitations, as a single document, the annual report provides a consistent basis of information across a long period of study. We recognise that for the large part of the period covered, IC was not formally reported in annual reports as a separate devoted section (for instance, Skandia started issuing IC reports in the mid 1990's). However, whilst an IC section may be absent from the annual report, relevant disclosures reflecting IC components and corporate value creation can nonetheless be identified throughout the annual report principally in the management commentary, for instance the chairman's report or the chief executives review. Campbell (2000) argued that the annual report conveys the reporting intent of management, which has total editorial control over its contents, enabling insights into how reporting has developed during the period studied. Thus, the messages conveyed by management in respective annual reports should, arguably, be reflective of IC emphasis at that period in time. Further, Ogden and Clarke (2005), in their research, through interviews with senior management confirmed that "what was communicated in the annual report was seen as strategically important as to how companies wished to present themselves" (page 318). With specific relevance to this research, Abeysekera (2008) commented that "the annual reports provide a special communication opportunity for firms to go beyond simply reporting financials and to show leadership and vision in reflecting the values and the position of the firm" (page 19).

Daimler's annual reports are available, for archival based research, for the whole of the longitudinal period, 1979 to 2010. In common with the majority of IC disclosure research, a content analysis research method was adopted (see for instance Campbell and Rahman, 2010; Striukova *et al.*, 2008; Guthrie *et al.*, 2006; 2004; Abeysekera and Guthrie, 2005; Bukh *et al.*, 2005; Vandemaele *et al.*, 2005; Bozzolan *et al.*, 2003; Brennan, 2001)². Within each annual report, all of the front-end³ narrative based sections were manually reviewed and analysed for IC related disclosures. This included the management report, required as a separate part of the

² For a detailed review of content analysis used within IC research, refer to Beattie and Thomson (2007).

³ The research, in common with voluntary disclosure studies, covers all of the annual report up to the statutory financial statements.

annual report since 1985 (section 264 and 289 in the German commercial code, HGB, Zerr, 2012). The research purposefully focussed on the voluntary narrative IC related disclosure provided by the company over the time period studied to gain insights into how such disclosure changed over time and the emphasis accorded to the constituents of that disclosure by management. In coding the annual reports, quotes were extracted to highlight key messages and illustrate changes in emphasis of reporting over the period. These were primarily, though not exclusively, drawn from the annual letter from the CEO or the business review sections to align key messages with the strategic direction at those times. Over the period there were no changes with respect to the statutory reporting requirements of IC that may cause the voluntary disclosure content to alter. However, the growing recognition of the importance of IC was reflected by the German Wissensbilanz guidelines (2004) although this was related to SME voluntary disclosure linking strategy and intangible asset reporting (Abhayawansa, 2014; Edvinsson and Kivikas, 2007; Alwert *et al.*, 2004).

This study used an IC categorisation proposed and developed by Sveiby (1997) and Guthrie and Petty (2000). In accordance with this framework (consistent with Campbell and Rahman, 2010; Striukova *et al.*, 2008; Guthrie *et al.*, 2006), the IC content was classified into the three broad categories human, structural and relational capital. Each category contained several narrow elements for which various indicators were formulated. In the process of gaining coding practice this categorisation was further revised mainly by adding or refining indicators for each sub-category. When the categorisation was able to capture all the relevant disclosures through its narrow elements the final coding process was performed. The sub-categories and indicators are shown as Appendix A.

A key aspect of content analysis is the unit of coding to be adopted for the study, for instance resolved at the level of word, phrase, sentence, or page proportion. For this study, sentence was adopted as the coding unit in common with a number of prior studies (Davey *et al.*, 2009; Whiting and Miller, 2008; Abeysekera and Guthrie, 2005; Vandemaele *et al.*, 2005; Bozzolan *et al.*, 2003). The use of sentences as the coding unit is consistent with Milne and Adler (1999) who contended that “sentences are far more reliable than any other unit of analysis” (page 243). A key consideration on selecting sentences as the coding unit was the comparability of German and English translations of the Daimler annual reports to ensure consistency of coding between the two languages. Campbell *et al.* (2005) who examined

environmental disclosures using German and English reports concluded that “the unit of coding of translation was found to have been most commonly at the level of the sentence” (page 343). For the purpose of coding, the English versions of the annual report were used⁴.

Every annual report was downloaded from the Daimler website, printed and read through chronologically beginning with the report of 1979 and ending with 2010. Whenever an IC-related sentence appeared, the instance was recorded in a coding sheet separate for each year. In order to obtain high reliability of the data, (Krippendorff, 2013), detailed and exact coding rules were developed and applied in the coding process. Each counted element was coded according to the three broad categories and identified sub-categories (Appendix A). If the whole sentence fell within one category, the sentence was counted as 1. If one sentence could be assigned to two categories, each was counted with ½. (Slack and Shrives, 2008) as shown below:

- Example 1:
“Today, Daimler has a wide-ranging patent portfolio of more than 19,600 industrial property rights and a broad spectrum of trademarks and protected designs.”
This narrative was coded: Structural Capital: Intellectual Property 1
- Example 2:
“Another pioneering aspect is the electronic signature function, which allows customers to sign documents directly on the screen.”
This narrative was coded: Human Capital: Innovation ½; Relational Capital: Customers ½

Following the coding rules outlined above, a pilot year annual report was independently coded by one of the researchers and a separate blind coding undertaken by the other researcher (see Abeysekera 2010) with appropriate disclosure scoring. The two researchers then met to go through all of the coding. To test for inter-coder reliability, Krippendorff alpha was used, advocated as the “best test of coder reliability for content analysis based research” (Dumay and Cai, 2015, forthcoming). A high level of inter-coder reliability was observed with a Krippendorff alpha 0.874 (compared to 0.8 as the generally acceptable score, see Krippendorff, 2013) measured on the pilot coding. Based on the initial pilot coding, all of the

⁴ If any doubt about the accuracy of the translation arose in the coding process from the original German version, happily one of the researchers was German and was able to confirm the translation.

broad categories and signifiers of narrow coding were fully agreed between the two researchers. Subsequently, all of the reports were independently blind coded by both researchers. The level of inter-coder agreement was 93% and discrepancies resolved for the final results.

The research design is purposefully case based on a single company seeking to provide insights into IC disclosure patterns over time mapped against specific periods of corporate strategy. As such, we readily acknowledge the more limited amount of our data, hence the aim of our findings' presentation and discussion that follow is not to make substantive, more generalisable claims about IC disclosure that a far larger study examining multiple companies over time could offer (consistent with that of Campbell and Rahman, 2010; Campbell, 2000). Instead, we provide more case based insights (Cunliffe, 2008) into the contextualised data (Elliott, 2005) in relation to the relevant disclosure patterns and its positioning against corporate strategy.

4. Findings

The findings are presented as follows. The overall trends in IC disclosure over the period are reported followed by more detailed disclosure patterns across the IC categories over the four strategy periods. This leads into a more detailed review of the findings, presented chronologically by strategy period, supported by appropriate annual report extracts to highlight the key IC disclosure themes emerging in the four discrete periods. Drawing on the richness of this qualitative data helps to us to show the changing emphasis of disclosure over time with the associated changes in leadership and strategic shifts.

The overall pattern of IC disclosures across the three broad categories, human, structural and relational capital over the 32 year period 1979-2010 is shown in Figure 1. There were a total of 14,358 IC related sentences identified in the annual reports over the period, of which over 9,000 related to the period since 1996. In the first year of coding, 1979, 120 IC related sentences were identified, this rose to 985 sentences in 2010, the last year of the coding period. The increase in IC disclosure is consistent with that observed by Campbell and Rahman (2010) and also reflects the growth of narrative reporting in general, and specifically in Daimler AG, with the annual report increasing in length from 96 pages in 1979 to 252 pages in 2010.

Insert Figure 1 about here

The totality of IC reporting over the period, in percentage terms, showed that relational capital was most reported (35.8%), followed by structural capital (34.1%) and human capital (30.1%). However, it is evident from Figure 1 that the proportions of reporting by broad category have been subject to considerable variation over the period, with a relative decline in human capital and increases in structural and relational capital, the latter being particularly marked towards the end of the study, notably coinciding with the final period 2006-2010. Table 2 shows the relative reporting trends of broad IC disclosure by respective strategy periods to provide initial insight into reporting trends compared to an overall period mean.

Insert Table 2 about here

To more fully identify the shifts in reporting, and the changing emphasis (by comparative disclosure volume) accorded to the different broad categories of IC, observed over the four identified strategy periods, the percentage movements in disclosure between the periods are summarised in Table 3. A number of initial observations from this are made. Firstly, whilst human capital was the most reported in periods 1 and 2, there were substantial increases in structural capital reporting in period 2 (59.1%) and relational capital in period 3 (44.3%), with a decline in the comparative volume of human capital reporting from period 1 through to period 3. By period 3, human capital had been replaced by structural capital as the most frequently reported, in turn replaced by relational capital in period 4. In period 4, there is a further change in emphasis with a decline in structural capital (21.5%) and corresponding increases in relational capital and in human capital. To test the changes in disclosure against shifts in strategy over the respective four periods, a two sample Kolmogorov-Smirnov test was performed. The changes in IC disclosure composition from one identified strategy period to another were all found to be significant at the 1% level⁵.

Insert Table 3 about here

⁵ Additionally, T tests were performed on total IC disclosures between the four successive identified strategy periods 1979-2010. Similarly, to the non-parametric Kolmogorov-Smirnov results, the changes in disclosure from one identified strategy period to another were all found to be significant at the 1% level.

In conjunction with Tables 2 and 3, Table 4 details the five sub-categories of IC that were the most reported, by percentage of total reporting, in the respective periods. Through this more detailed breakdown of disclosure by individual categories we are able to more fully report the changing disclosure emphasis over the four periods supported by annual report extracts.

Insert Table 4 about here

In the first period, 1979-1984, human capital was by far the most reported, with comparatively little reporting around structural and relational capital. The first narrative in the 1979 annual report highlighted the importance of human capital in the period: “In fond memory of all our employees and pensioners who passed away last year” (page 3). The quote was on an otherwise blank page. By contrast, in 2010, the last year in the study, the annual report starts with a page devoted to all of the brand logos (relational capital) with an opening quote serving to re-enforce the importance of relational capital, during the final period and the strategic refocus on core business, relating to brand, firm reputation, customers and innovation (human capital). There is no direct mention of employees, but rather a focus on global brands and positioning reflecting current strategic focus.

“Innovation from tradition. 125 years ago, Gottlieb Daimler and Carl Benz invented the automobile – now we are passionately shaping its future.... As automotive pioneers, we see it as both motivation and a duty to continue our tradition with groundbreaking technologies and superior products. We do our very best for customers who expect the best, and we live and breathe a culture of operational excellence” (Annual Report 2010, cover page iv).

During the first period, the business had a traditional Daimler structure of development, production and sales to support a core business strategic focus based around passenger car innovation, development and brand. The detailed IC reporting during the period, shown in Table 4, reflects the importance of human capital, and employee commitment and innovation in particular, exemplified by the following illustrative quotes:

“We trust in the proficiency and commitment of our employees, in our experience and our know-how in all fields in which we are active” (Annual Report, 1982, page 31).

“For only through the skill, the commitment and the performance of our employees can the world-famous quality and market success of our product be assured” (Annual Report 1983, page 47).

Overall, human capital is most reported by volume in periods 1 and 2 primarily due to the ongoing importance of innovation (21% and 22.5% of all disclosure respectively). Indeed, innovation is the most reported category across all four periods, consistent with the

technological nature of the business. Notably, however, in period 2, detailed employee-related disclosure falls from 18.5% of reporting volume to 9.5% and there are no other human capital categories reported in Table 4. In contrast, there is an increase in structural capital reporting from 21.5% to 34.2% of overall IC reporting reflecting a changed emphasis of disclosure consistent with group restructuring and the diversification strategy in period 2. The traditional structures of the business were replaced by divisional structures with management reporting by product grouping. This reflects the diversification and transformation underpinning the Integrated Technology Group strategy with the corresponding emphasis on management structures across a more diversified group of companies. At a more detailed level (see Table 4), this is shown through the marked increase in management philosophy and management processes as elements of IC reporting.

“The company-interlinking contract with AEG and the agreements made between the proprietors concerning managerial control of Dornier GmbH by Daimler-Benz enable the Group member-companies to devise a clear and, above all, *uniform managerial structure for those areas of business activity*” (emphasis added) (1988, Annual Report, page 5).

“In such a period of radical change, the key emphasis obviously cannot be whether everything has regained equilibrium....The *new structure of the group*....provides the legal and organizational basis to allow *systematic and effective use of the resources and the complex know-how existing in the overall group*” (emphasis added) (1989 Annual Report, page 5).

“In addition, we have launched broad-based measures to make our *organizational structures more flexible*. Consequently, your company is already benefitting from leaner central offices, fewer levels of hierarchy, higher performance, profit centers with decentralized decision-making authority, a heightened sense of the individual's responsibility” (emphasis added) (1992 Annual Report, page 8).

The disclosures reveal the importance of organisational structure underpinning strategic shift and the corresponding change in emphasis of reporting toward structural capital. Despite the increased relative importance of structural capital through the period, it is also apparent from Figure 1, that human capital in total was the most reported. We can observe two factors to help account for this. Firstly, with regard to human capital reporting, one of the recurring features of all of the annual reports is the record of thanks to employees. Although in many of the earlier years this was largely boiler-plated, by 1991 the annual thanks was itself modified to include cost structures:

“We would like to express our gratitude to all our employees for their commitment and hard work in a year in which the market once more presented us with major challenges, *while at the same time the adaptation of cost structures had to be carried out energetically*” (emphasis added) (1991 Annual Report, page 58).

Thus whilst human capital is still reported, it becomes more nuanced, the sentiment within the disclosure, serving more to emphasise the importance of structure to support the strategic diversification of the company (and related structural capital). Indeed, this qualitative shift in emphasis was shown earlier in the 1991 report:

“We plan to make major strides in the coming years with regard to the restructuring of Daimler-Benz into an international high-technology concern.....Leaner personnel structures and reduction in the number of hierarchical levels will assist in this respect; at the same time, *such measures will provide an important motivation for our employees to identify more closely with their particular tasks*” (emphasis added) (1991 Annual Report, page 17).

Secondly, there was a surge in human capital reporting around 1990-1991. This increase was in part due to the impact on employees (and production levels) caused by German reunification in 1990. The other significant reason for the increase in those years followed the wave of acquisitions to support the integrated technology group strategy, the creation of Daimler-Benz InterServices AG (Debis), the consequent integration processes and increase in employee numbers in 1989-1990. Thereafter, with the exception of innovation, human capital reporting falls whilst notably the reporting of structural capital, in periods 2 and 3, and then relational capital, in periods 3 and 4, increases in prevalence.

The third identified strategy period, 1996 to 2005, saw arguably, the most volatile period in the modern history of Daimler AG under Jürgen Schrempp as CEO with the focus on shareholder wealth creation through the ‘World Corporation Vision’. To help deliver this strategy and to drive corporate value and shareholder wealth creation, we observe in Tables 2 and 3 the shift in emphasis towards, and the underpinning importance of, structure and management (structural capital) and brands (relational capital). For instance, by period 3, human capital comprises only 20.9% of total IC disclosure compared to structural capital (40.5%) and relational capital (38.6%). At a more detailed level, Table 4 now shows that four of the five most disclosed IC components are reflective of those two capitals, the importance of which are reflected in the following quotes drawn from across this period. The two quotes shown immediately below clearly show the emphasis placed on value creation and the structures in place to support this (structural capital):

“But a great deal more has taken place in your company to firmly establish a comprehensive concept of value-based leadership. This concept of value-creation requires different thinking on all decision levels; it not only requires bottom-line orientation, but also efficient structures, processes and - not least - a totally new approach to personnel management” (Annual Report 1996, page 4).

“In addition, we examined all our work processes and focused on value creation at every level of the business. Management reporting systems were simplified and the decision making processes were dramatically shortened” (Annual Report 1997, page 3).

The second two quotes highlight active brand management (relational capital) to achieve the strategic objective of shareholder value:

“We restructured our organization by establishing three brand-focused automotive divisions, backed by an Automotive Council for product design, engineering and production, and a Sales and Marketing Council for brand development and strengthening our sales organization, both of which report directly to the Board of Management” (Annual Report 1999, page 3).

“Our brands are distinctively positioned and combine to present the most powerful portfolio in our industry. At DaimlerChrysler, such decisions are governed by the strictest multi-brand management approach” (Annual Report 2002, page 4).

In the second period we observed that employee reporting (human capital) was veiled in structure. In the third period, employee reporting is now firmly linked to managerial reporting, reflecting the underpinning corporate strategy focus on value creation.

“We plan to involve employees more directly in the effort to improve earnings; models are being developed. Employees should be rewarded according to the contribution of value they make to the company” (Annual Report 1996, page 4).

Furthermore, the disclosures, combining customers (through brand value), employees (through value creation) and shareholder value are reflective of Schrempp’s personal views on the importance of these key areas within the corporate strategy which he described as the magic triangle (Grässlin, 2000).

The fourth period (2006-2010) under Dieter Zetsche as CEO is characterised by the prevalence of relational capital disclosures (42.7%), with a focus on brands and reputation. Correspondingly there is a comparative decline (-21.5%) in structural capital reporting compared to its relative importance in periods 2 and 3. This final strategy period follows the retirement of Jürgen Schrempp as CEO in 2005, the demise of Chrysler and the renaming of the group to Daimler AG in 2007. In his speech at the 2008 annual general meeting, Zetsche made clear the importance of Daimler heritage and values in a corporate strategy focused on the reinvigoration of the Daimler brand and a return to core business: “We invented the automobile – and are passionately shaping its future....Old virtues have given us new strength” (www.daimler.com/dccom). Throughout the period there is an emphasis on brand strength and reputation mirroring the importance of relational capital alongside innovation evident in Table 4, with these three elements accounting for 43.3% of total IC disclosure.

This emphasis is reflected in the, often repeated, relational capital disclosures during the period that further emphasise the reputation of the Daimler brand and innovation for the future.

“We invented the automobile – now we are passionately shaping its future. As a pioneer of automotive engineering, we feel inspired and obliged to continue this proud tradition with groundbreaking technologies and high-quality products” (Annual Reports 2007, 2008, 2009, 2010).

“Our corporate history is full of innovations and pioneering achievements; they are the foundation and ongoing stimulus for our claim to leadership in the automotive industry” (Annual Reports 2007, 2008, 2009, 2010).

Given the turbulence towards the end of period 3, under Schrempp as CEO, and the well-publicised failure of the DaimlerChrysler merger, there is, throughout period 4, a clear emphasis on the history and reputation of the business and its brands (all relational capital). As a key strategic focus to reinvigorate the Daimler brand, the company now seeks to convey and assert its core traditional strengths as a world leading automotive designer and producer.

5. Discussion and conclusions

One of the primary roles of the annual report is for management to convey information that reflects its key messages about the company to its shareholders and other stakeholders (Ogden and Clarke, 2005; Campbell, 2000). Whilst IC disclosure is voluntary, it nonetheless captures the prevailing views of management as to what is important by the presence and emphasis of such disclosure. More broadly, such messages will be, in part, be reflective of corporate strategy, as management seek to explain current and future value creation for shareholders and to emphasise those aspects of the business that are most salient in achieving this objective. Beattie and Thomson (2013), Huang *et al.* (2013) and Alcaniz *et al.* (2011) and all highlight the importance of IC in value creation and from this, its link to corporate strategy. Lerro *et al.* (2014) and Cabrita and Vaz (2006) specifically refer to the importance of IC in delivering corporate strategy and Marr (2005) noted that “intangible assets should be one of the central considerations in formulating and framing strategy” (page 148). Thus, as strategy shifts over time, for instance due to change in leadership, the resources used to drive value and the emphasis placed on the various constituents of IC will themselves change (Rylander and Peppard, 2003), mirroring their importance in the value creation process so “embodying strategy in organizational resources” (page 316).

This longitudinal research has found a shifting pattern of IC disclosures over four identified periods, in which there were marked realignments of corporate strategy following leadership change. Such firm level changes in IC emphasis and related disclosure, reflecting the fluctuations in strategy, are akin to what Cabrita and Vaz (2006) referred to as being “each firm’s configuration of knowledge characteristics and the idiosyncrasies of the firm’s history” (page 13). That a change in strategic focus will also be evident in IC disclosure is consistent with the argument advanced by Bornemann and Alwert (2007) who emphasised the strategic relevance of IC drivers and the resultant differential patterns of reporting. In this research, the rise in importance of both structural capital and relational capital respectively can be traced to the broad changes in strategy prevailing at those times in the company’s history. For instance, the growth of structural capital in the second period (1985-1995) and the third period (1996-2005) is reflective of strategic change at those times, firstly through group restructuring diversification and the need for greater managerial control, and secondly through global expansion and the processes and structures to drive shareholder wealth. Similarly, the context behind IC reporting changes again from 2006 onwards, with a new CEO and shift in strategy, being more orientated towards relational capital, and in particular the reinvigoration of the brand and reputation as key IC drivers.

The mirroring of reporting and corporate strategy is reflective of Mouritsen *et al.* (2001) who contended that “writing intellectual capital is a local story....orientated towards organisational ends” (page 735). Thus for us to fully interpret long term changes in the pattern and emphasis of corporate disclosure we need to recognise the locality of that disclosure and how it fits with the prevailing corporate ethos and strategy at that point in time. The messages conveyed by management, reflective of their corporate strategy, reveal the changing prevalence and emphasis placed on IC related disclosure. Thus, within a strategic context, the annual report serves to convey, and signify, to stakeholders areas of emphasis reflective of managerial intent and the underpinning corporate strategy.

In recognition of the importance of intangible assets in general, IC related disclosure provides a wider appreciation of the company, and its value drivers, compared to the more traditional focus of physical resource based reporting. From a contemporary practice perspective, there have been increasing demands for more joined up reporting to encapsulate all of the resources used by companies, including intangibles, in their exposition of strategy and wealth creation

(BIS, 2011; ICAEW, 2009) further evidenced through the integrated reporting initiative (IIRC, 2013). That such disclosure on intangibles is important is evident in its increasing demand and use by capital market users such as analysts and fund managers (Abhayawansa and Abeysekera, 2009; Edvinsson and Kivikas, 2007; Holland and Johanson, 2003). However, like many forms of voluntary disclosure, within any one year, individual voluntary IC-related disclosures are often messy and complex, and scattered across all elements of the annual report. To help make greater sense of such disclosures, a context needs to be conveyed to attach meaning. If we remove the backdrop of periods of strategic identity and associated management at that time we are in danger of removing the canvas on which the disclosure is framed. Thus, in order to more fully understand annual report IC (and arguably other) disclosures it appears helpful to view such disclosures against a backdrop of corporate history and periods of identifiable long term strategy and the consequent focus of the business in support of this. Such a strategic context enables us to more fully see the prevailing messages that are being conveyed by management over a period of time and to better interpret the longitudinal complexity of IC disclosures.

There are a number of avenues of further research arising from this study. Complementary econometric based longitudinal studies could be carried out to test the wider generalisability of these findings and the link between strategic change and IC disclosure. At present, such studies have been usefully employed to show significant relationships for instance between company size and sector and levels of IC disclosure. It would also be valuable to gain managerial insight into the IC disclosure messages, from both narrative and visual perspectives, as preparers of the annual report. In particular the key messages that they wish to convey and how these are enacted within the annual report or other reporting media.

References:

- Abhayawansa, S. (2014), "A review of guidelines and frameworks on external reporting of intellectual capital", *Journal of Intellectual Capital*, Vol. 15 No. 1, pp. 100-141.
- Abhayawansa, S. and Abeysekera, I. (2009), "Intellectual capital disclosure from sell-side analyst Perspective", *Journal of Intellectual Capital*, Vol. 10 No. 2, pp. 294- 306.
- Abeysekera, I. (2010), "The influence of board size on intellectual capital disclosure by Kenyan listed Firms", *Journal of Intellectual Capital*, Vol. 11 No. 4, pp. 504-518.
- Abeysekera, I. (2008), "Motivations behind human capital disclosure in annual reports", *Accounting Forum*, Vol. 32 No. 1, pp. 16-29.
- Abeysekera, I. and Guthrie, J. (2005), "An empirical investigation of annual reporting trends of intellectual capital in Sri Lanka", *Critical Perspectives in Accounting*, Vol. 16 No. 3, pp. 151–163.
- Abeysekera, I. and Guthrie, J. (2004), "Human Capital Reporting in a Developing Nation", *British Accounting Review*, Vol. 36 No. 2, pp. 251-268.
- Ahmed, K. and Courtis, J.K. (1999), "Associations between corporate characteristics and disclosure levels in annual reports: a meta-analysis", *British Accounting Review*, Vol. 31 No. 1, pp. 35-61.
- Alcaniz, L., Gomez-Bezares, F. and Roslender, R. (2011), "Theoretical perspectives on intellectual capital: A backward look and a proposal for going forward", *Accounting Forum*, Vol. 35 No.1, pp. 104-117.
- Alwert, K., Bornemann, M. and Kivikas, M. (2004), *Intellectual Capital Statement – Made in Germany: Guideline 1.0 on the Preparation of An Intellectual Capital Statement*, Federal Ministry of Economics and Labour, Berlin.
- Ashton, R.H. (2005), "Intellectual capital and value creation: A review", *Journal of Accounting Literature*, Vol.24, pp. 53-134.
- Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

Beattie, V. and Smith, S.J. (2013), "Value creation and business models: Refocusing the intellectual capital debate", *British Accounting Review*, Vol. 45 No. 4, pp. 243-254.

Beattie, V. and Thomson, S.J. (2007), "Lifting the lid on the use of content analysis to investigate intellectual capital disclosures", *Accounting Forum*, Vol. 31 No. 2, pp. 129-163.

Bellora, L. and Guenther, T. (2014), "Drivers of innovation capital disclosure in intellectual capital statements: Evidence from Europe", *British Accounting Review*, Vol. 45, No. 4, pp. 255-270.

BIS (2011), "The future of narrative reporting – Consulting on a new reporting framework – A further consultation", London, Department of Business, Innovation and Skills. Available at: <http://www.bis.gov.uk/consultation/future-of-narrative-reporting> (accessed 14 May 2012)

Botosan, C.A. (1997), "Disclosure level and the cost of equity", *The Accounting Review*, Vol. 72 No. 3, pp. 323-349.

Bornemann, M. and Alwert, K. (2007), "The German guideline for intellectual capital reporting: method and experiences", *Journal of Intellectual Capital*, Vol. 8 No. 4, pp. 563-576.

Bozzolan, S., Favotto, F. and Ricceri, F. (2003), "Italian annual intellectual capital disclosure: An empirical analysis", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 543-558.

Brennan, N. (2001), "Reporting intellectual capital from annual reports; Evidence from Ireland", *Accounting, Auditing & Accountability Journal*, Vol. 14 No. 4, pp. 423-436.

Brüggen, A., Vergauwen, P. and Dao, M. (2009), "Determinants of intellectual capital disclosure: evidence from Australia", *Management Decision*, Vol. 47 No. 2, pp. 233-245.

Bukh, P.N. (2003), "Commentary: The relevance of intellectual capital disclosure: A paradox", *Accounting, Auditing & Accountability Journal*, Vol. 16 No. 1, pp. 49-56.

Bukh, P. N., Nielsen, C., Gormsen, P. and Mouritsen, J. (2005), "Disclosure of information on intellectual capital in Danish IPO prospectuses", *Accounting, Auditing & Accountability Journal*, Vol. 18 No. 6, pp. 713-732.

Cabrita, M. and Vaz, J. (2006), “Intellectual Capital and Value Creation: Evidence from the Portuguese Banking Industry”, *The Electronic Journal of Knowledge Management*, Vol. 4 No. 1, pp. 11-20, available at <http://www.ejkm.com/main.html> (accessed 28 December 2014).

Campbell, D. (2000), “Legitimacy theory or managerial reality construction? Corporate social disclosure in Marks and Spencer Plc annual reports, 1969-1997”, *Accounting Forum*, Vol. 24 No. 1, pp. 80-100.

Campbell, D., Beck, A. C. and Shrivs, P. (2005), “A note on comparative language interrogation for content analysis: The example of English vs. German”, *British Accounting Review*, Vol. 37 No. 3, pp. 339- 350.

Campbell, D. and Rahman, M. R. (2010), “A longitudinal examination of intellectual capital reporting in Marks & Spencer annual reports, 1978-2008”, *British Accounting Review*, Vol. 42 No. 1, pp. 56-70.

Cohen, S. Naoum, V.C. and Vlismas, O. (2014), “Intellectual capital, strategy and financial crisis from a SMEs perspective”, *Journal of Intellectual Capital*, Vol. 15 No. 2, pp. 294 – 315.

Cordazzo, M. (2007), “Intangibles and Italian IPO prospectuses: a disclosure analysis”, *Journal of Intellectual Capital*, Vol. 8 No. 2, pp. 288-305.

Cunliffe, A. L. (2008), “Orientations to Social Constructionism: Relationally Responsive Social Constructionism and its Implications for Knowledge and Learning”, *Management Learning*, Vol. 39 No. 2, pp. 123-139.

Curado, C., Henriques, L. and Bontis, N. (2011), “Intellectual capital disclosure payback”, *Management Decision*, Vol. 49 No. 7, pp. 1080-1098.

Daimler AG, annual reports 1979 – 2010. Available at:
<http://www.daimler.com/investorrelations/annualreportssince1979> (accessed 29 May 2012).

Daimler AG, company history. Available at <http://www.daimler.com/companyhistory> (accessed 12 September 2012).

Daimler CEO Zetsche before annual meeting. Available at <http://www.daimler.com/dccom> (accessed 17 September 2013).

Davey, J., Schneider, L. and Davey, H. (2009), "Intellectual capital disclosure and the fashion industry", *Journal of Intellectual Capital*, Vol. 10 No. 3, pp. 401-424.

Dumay, J. and Cai, L. (2015), "Using content analysis as a research methodology for investigating intellectual capital disclosure: A critique", *Journal of Intellectual Capital* (forthcoming).

Edvinsson, L. and Kivikas, M. (2007), "Intellectual capital (IC) or Wissensbilanz process: some German experiences", *Journal of Intellectual Capital*, Vol. 8 No. 3, pp. 376-385.

Elliott, J. (2005), *Using narrative in social research: qualitative and quantitative approaches*. London, Sage.

Galbraith, C.S. and Merrill, G.B. (2001), "IPO performance in business to business 'B2B' e-commerce firms: effects of strategy and industry", *Managerial Finance*, Vol. 27 No. 7, pp. 1-15.

Gamerschlag, R. (2013), "Value relevance of human capital information", *Journal of Intellectual Capital*, Vol. 14 No. 2, pp. 325-345.

Gelb, D.S. (2002), "Intangible assets and firms' disclosures: an empirical investigation", *Journal of Business Finance & Accounting*, Vol. 29 Nos 3/4, pp. 457-76.

García-Meca, E. and Martínez, I. (2007), "The use of intellectual capital in investment decisions: An empirical study using analyst reports", *The International Journal of Accounting*, Vol. 42, pp. 57-81.

Ginsberg, A. and Abrahamson, E. (1991), "Champions of change and strategic shifts: The role of internal and external change advocates", *Journal of Management Studies*, Vol. 22 No. 2, 173-190.

Grässlin, J. (2000), *Jürgen Schrempp and the making of an auto dynasty*, McGraw-Hill.

Green, A. and Ryan, J.J. (2005), "A framework of intangible valuation areas (FIVA): Aligning business strategy and intangible assets", *Journal of Intellectual Capital*, Vol. 6 No. 1, pp. 43-52.

Greiner, L.E. and Bhambri, A. (1989), “New CEO intervention and dynamics of deliberate strategic change”, *Strategic Management Journal*, Vol. 10 No. 1, pp. 67-86.

Guthrie, J. and Petty, R. (2000), “Intellectual capital: Australian annual reporting practices”, *Journal of Intellectual Capital*, Vol. 1 No. 3, pp. 241-251.

Guthrie, J., Petty, R. and Ricceri, F. (2006), “The voluntary reporting of intellectual capital: Comparing evidence from Hong Kong and Australia”, *Journal of Intellectual Capital*, Vol. 7 No. 2, pp. 254 – 271.

Guthrie, J., Yongvanich, K., Ricceri, F. and Petty, R. (2004), “Using content analysis as a research method to inquire into intellectual capital reporting”, *Journal of Intellectual Capital*, Vol. 5 No. 2, pp. 282-293.

Holland, J. and Johanson, U. (2003), “Value-relevant information on corporate intangibles-creation, use and barriers in capital markets – ‘between a rock and a hard place’”, *Journal of Intellectual Capital*, Vol. 4, No. 4, pp. 465-486.

Huang, C.C., Luther, R., Tayles, M. and Haniffa, R. (2013), “Human capital disclosure in developing countries: Figureheads and value creators”, *Journal of Applied Accounting Research*, Vol. 14 No. 2, pp. 180-196.

ICAEW (2009), *Developments in new reporting models*, London, Institute of Chartered Accountants in England and Wales.

IIRC (2013), “The international integrated reporting framework”. Available at [http:// www.theiirc.org](http://www.theiirc.org). (accessed 23 October 2013).

Joia, L.A. (2000), “Measuring intangible corporate assets: Linking business strategy with intellectual Capital”, *Journal of Intellectual Capital*, Vol. 1 No.1, pp. 68-84.

Kaplan, R.S and Norton, D.P. (2004), *Strategy Maps – Converting Intangible Asstes into Tangible Outcomes*, Harvard Business School Press, Boston, MA.

Kaplan, R.S and Norton, D.P. (2000), “Having Trouble with your Strategy – then map it”, *Harvard Business Review*, Vol. 78 No. 5, pp. 167-176.

Klein, D. (1998), *The Strategic Management of Intellectual Capital*, Butterworth-Heinemann, Woburn, MA.

Krippendorff, K. (2013), *Content Analysis: An Introduction to its Methodology*, Los Angeles, Sage.

Lee, A., Nielson, J. and van der Zahn, J.L. (2007), "Is communicating intellectual capital information Via internet viable? Case of Australian private and public hospitals". *Journal of Human Resources Costing and Accounting*, Vol. 11 No. 1, pp. 53-78.

Lerro, A., Linzalone, R. and Schiuma, G. (2014), "Managing intellectual capital dimensions for organizational value creation", *Journal of Intellectual Capital*, Vol. 15 No. 3, pp. 350-361.

Marr, B. (2005), "Strategic management of intangible value drivers", *Handbook of Business Strategy*, Vol. 6 No. 1, pp. 147-154.

Marr, B., Schiuma, G. and Neely, A. (2004), "The dynamics of value creation: Mapping your Intellectual performance drivers", *Journal of Intellectual Capital*, Vol. 5 No. 2, pp. 312-325.

Martin-de-Castro, G., Delgado-Verde, M., López-Saez, P. and Navas-López, J.E. (2011), "Towards 'an intellectual capital-based view of the firm': origins and nature", *Journal of Business Ethics*, Vol. 98 No. 4, pp. 649-662.

Meek, G. K., Roberts, C. B. and Gray, S. J. (1995), "Factors influencing voluntary annual report disclosures by U.S., U.K. and continental European multinational corporations", *Journal of International Business Studies*, Vol. 26 No. 3, pp. 555- 572.

Milne, M. J. and Adler, R. W. (1999), "Exploring the reliability of social and environmental disclosures content analysis", *Accounting, Auditing & Accountability Journal*, Vol. 12 No. 2, pp. 237-256.

Mouritsen, J., Larsen, H.T. and Bukh, P. (2001), "Intellectual capital and the 'capable firm': narrating, visualising and numbering for managing knowledge", *Accounting, Organisations and Society*, Vol. 26, pp. 735-762.

Nelson, R. and Winter, S. (1982), *An Evolutionary Theory of Economic Change*, Harvard University Press, Cambridge, MA.

Niemark, M.K. (1995), *The hidden dimensions of annual reports: Sixty years of social conflict at General Motors*, Princeton, NJ, Markus Wiener.

Ogden, S. and Clarke, J. (2005), "Customer disclosures, impression management and the construction of legitimacy", *Accounting, Auditing & Accountability Journal*, Vol.18 No. 3, pp. 313-345.

Penrose, E. (1959), *The Theory of the Growth of the Firm*, Basil Blackwell, London.

Porter, M. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York, NY.

Reed, K.K., Lubatkin, M. and Srinivasan, N. (2006), "Proposing and testing an intellectual capital-based view of the firm", *Journal of Management Studies*, Vol. 43 No. 4, pp. 867-893.

Roos, G. (2005), "Intellectual capital and strategy: a primer for today's manager", *Handbook of Business Strategy*, Vol. 6 No. 1, pp. 123-132.

Rylander, A. and Peppard, J. (2003), "From implementing strategy to embodying strategy: Linking strategy, identity and intellectual capital", *Journal of Intellectual Capital*, Vol. 4 No. 3, pp. 316-331.

Schneider, A. and Samkin, G. (2008), "Intellectual capital reporting by the New Zealand local government sector", *Journal of Intellectual Capital*, Vol. 9 No. 3, pp. 456-486.

Seetharaman, A., Sooria, H. H. and Saravanan, A. S. (2002), "Intellectual capital accounting and reporting in the knowledge economy", *Journal of Intellectual Capital*, Vol. 3 No. 2, pp. 128-148.

Shareef, F and Davey, H. (2005), "Accounting for intellectual capital: Evidence from listed English football clubs", *Journal of Applied Accounting Research*, Vol. 7 No. 3, pp. 78-116.

Singh, S. and Kansal, M. (2011), "Voluntary disclosures of intellectual capital: An empirical analysis", *Journal of Intellectual Capital*, Vol. 12 No. 2, pp. 301-318.

Slack, R.E. and Shrives, P. J. (2008), "Social disclosure and legitimacy in Premier League football

clubs: The first ten years”, *Journal of Applied Accounting Research*, Vol. 9 No. 1, pp. 17-28.

Streek, W. (2009), *Reforming capitalism: Institutional change in the German political economy*, Oxford University Press, Oxford.

Striukova, L., Unerman, J. and Guthrie, J. (2008), “Corporate reporting of intellectual capital: Evidence from UK companies”, *British Accounting Review*, Vol. 40 No. 4, pp. 297-313.

Sullivan, P.J. (2000), *Value-driven intellectual capital: how to convert intangible corporate assets into market value*, John Wiley & Sons, New York, NJ.

Stewart, T. (1999), *Intellectual Capital: The new wealth of organizations*, Bantam Dell Publishing Group, New York, NY.

Sveiby, K. E. (1997), *The new organizational wealth: managing & measuring knowledge-based Assets*, Berrett-Koehler, San Francisco, California.

Tushman, L.M. and Rosenkopf, L. (1996), “Executive Succession, Strategic Reorientation and Performance Growth: A Longitudinal Study in the U.S. Cement Industry”, *Management Science*, Vol. 42, pp. 939-953.

Vandemaele, S.N., Vergauwen, P.G. and Smits, A.J. (2005), “Intellectual capital disclosure in The Netherlands, Sweden and the UK”, *Journal of Intellectual Capital*, Vol. 6 no. 4, pp. 417-26.

Whiting, R.H. and Miller, J.C. (2008), “Voluntary disclosure of intellectual capital in New Zealand annual reports and hidden value”, *Journal of Human Resources Costing and Accounting*, Vol. 12 No. 1, pp. 26-50.

Wright, P.M., Dunford, B.B. and Snell, S.A. (2001), “Human resources and the resource based view of the firm”, *Journal of Management*, Vol. 27 No. 6, pp. 701-721.

Zack, M. (1999), *Knowledge and Strategy*, Butterworth-Heinemann, Woburn, MA.

Zerr, V. (2012), “Intellectual Capital reporting in Germany”, paper presented at *Financial Reporting and Business Communication conference*, July 2012, Bristol, UK.

Appendix A: Intellectual capital categorisation and indicators

Intellectual Capital elements	Indicators for content analysis coding
<i>Human Capital:</i>	
Employees	Employee, reward, compensation, bonus, commitment, loyalty, retention, morale.
Training	Development, training, in-house, learning,
Education	Education, recruitment, qualification.
Work related knowledge	Know-how, expertise, experience, absorptive capacity
Innovativeness	Product/process/service development, research, suggestions, ideas, creativity, technology
<i>Structural Capital:</i>	
Intellectual property	Patent, trademark, copyright, legal status, design
Firm infrastructure and information	Databases, knowledge network, communication/IT systems.
Management philosophy	Shareholders, growth, environment, society, social, community.
Corporate culture and management	Values, management, style, vision, mission, practice, ethic, ambition, focus, targets, evaluation.
Management processes	Efficiency, complexity, flexibility, structure, quality, performance, monitoring, principles of operation.
<i>Relational Capital:</i>	
Brands	Brand, product range, awards, market share, market leader, brand awareness, recognition, resonance.
Customers	Customer, USP, portfolio, loyalty, trust, satisfaction, feedback.
Financial relations	Equity, shareholders, banks, debt, funding
Marketing/Distribution	Marketing, supply, chain, advertising, distribution, delivery, promotion, campaign, depot.
Business collaboration	Partner, franchise, alliance, collaboration, outsourcing, agreement.
Firm reputation	Company name, profile, reputation, history, renown, distinctive, recognition, popularity, responsibility

Figure 1: Longitudinal trend of IC disclosure and identified strategic periods.

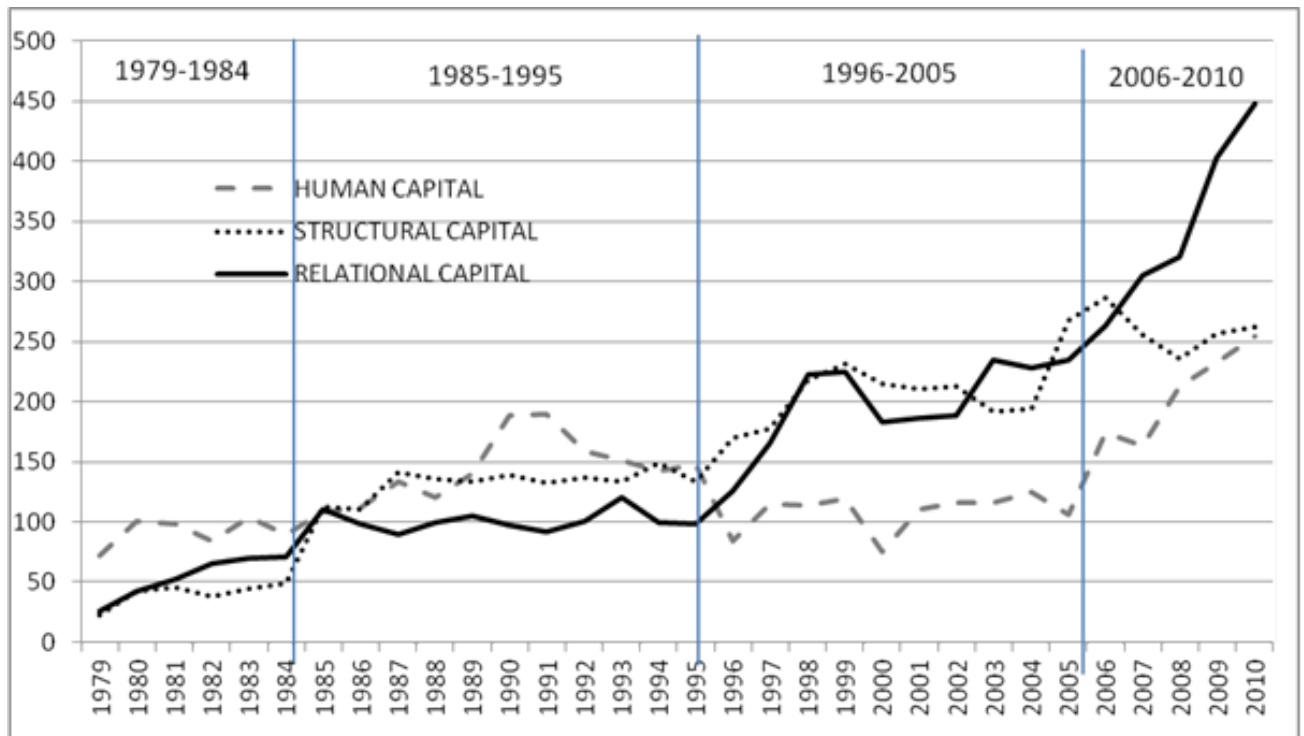


Table 1 – 1979 – 2010 CEO, broad strategy and significant events

Timeline	CEO (Chairman of the Management Board)	Identifier of key strategy (shown in bold) Significant events
1971-1979 1980-1983	Joachim Zahn Gerhard Prinz	Core automotive business: Traditional Daimler functional structure: development, production and sales Focus on passenger cars and development of commercial vehicles. Development of car range – introduction of Mercedes Benz 190 range 1982-1985.
1984-1986	Werner Breitschwerdt	1985 marked the beginning of strategic change to a broader based diversified group. Technology diversification – Dornier (aviation) and AEG, MBB (both electronics) acquisitions.
1987-1995	Edzard Reuter	Diversification: Integrated Technology Group (Integrierter Technologiekonzern): Diversification and restructuring to independent divisions: vehicles, aviation, aerospace and defence technology. Acquisitions of Messerschmitt (1989) and Fokker (1992) 1989/90 creation of Daimler-Benz InterServices AG (Debis) – financial services arm 1993 Daimler-Benz AG listed on New York Stock Exchange
1995-2005	Jürgen Schrempp	Shareholder wealth creation: World Corporation Vision (Welt AG), global market growth: Core development of automotive sector and financial services - 3 pillars strategy; America, Europe, Far East. Dismantling of integrated technology group idea - disposals of Fokker, Dornier and dissolved AEG 1998 merger with Chrysler Corporation and formation of DaimlerChrysler AG. 2000 Schrempp became sole CEO.

		<p>2000 acquisition of Western Star.</p> <p>2001-03 block minority stake (one third) in Mitsubishi Motors and acquisition of Mitsubishi Fuso Truck and Bus Corporation.</p> <p>2005 Global Engine Manufacturing Alliance (GEMA) with Hyundai and Mitsubishi Motors.</p>
2006-2010	Dieter Zetsche	<p>Core Daimler business –response to global crisis, focus on advancing technology in the automotive industry and the brand, Mercedes-Benz. Innovation in the small car market (Smart brand).</p> <p>2007 sale of majority stake (80.1%) in Chrysler to Cerberus Capital, renamed Daimler AG.</p> <p>2009 disposal of remaining 19.9% of Chrysler</p>

Extracted and adapted from www.daimler.com/company/history

Table 2: IC disclosure % by identified strategy period.

	1979-1984 Period 1	1985-1995 Period 2	1996-2005 Period 3	2006-2010 Period 4
Human Capital %	48.7	39.0	20.9	25.6
Structural Capital %	21.5	34.2	40.5	31.8
Relational Capital %	29.8	26.8	38.6	42.7

Table 3: Changes in IC disclosure between identified strategy periods.

	Period 1 to Period 2	Period 2 to Period 3	Period 3 to Period 4
Human Capital %	-19.9%	-46.4%	+22.5
Structural Capital %	+59.1%	+18.4%	-21.5
Relational Capital %	-10.1%	+44.3%	+10.6%

Table 4: Sub-categories of IC reporting by identified strategy period

Rank	1979-1984	1985-1995	1996-2005	2006-2010
1	Innovativeness (HC) 21.0%	Innovativeness (HC) 22.5%	Innovativeness (HC) 15.5%	Innovativeness (HC) 16.6%
2	Employees (HC) 18.5%	Employees (HC) 9.5%	Brands (RC) 13.9%	Brands (RC) 15.5%
3	Brands (RC) 10%	Management philosophy (SC) 9.5%	Management processes (SC) 12.8%	Reputation (RC) 11.2%
4	Training and Education (HC) 7.0%	Brands (RC) 8.4%	Corporate culture and management (SC) 10.4%	Corporate culture and management (SC) 10.0%
5	Customers (RC) 6.6%	Management processes (SC) 8.1%	Management philosophy (SC) 10.3%	Management philosophy (SC) 9.4%